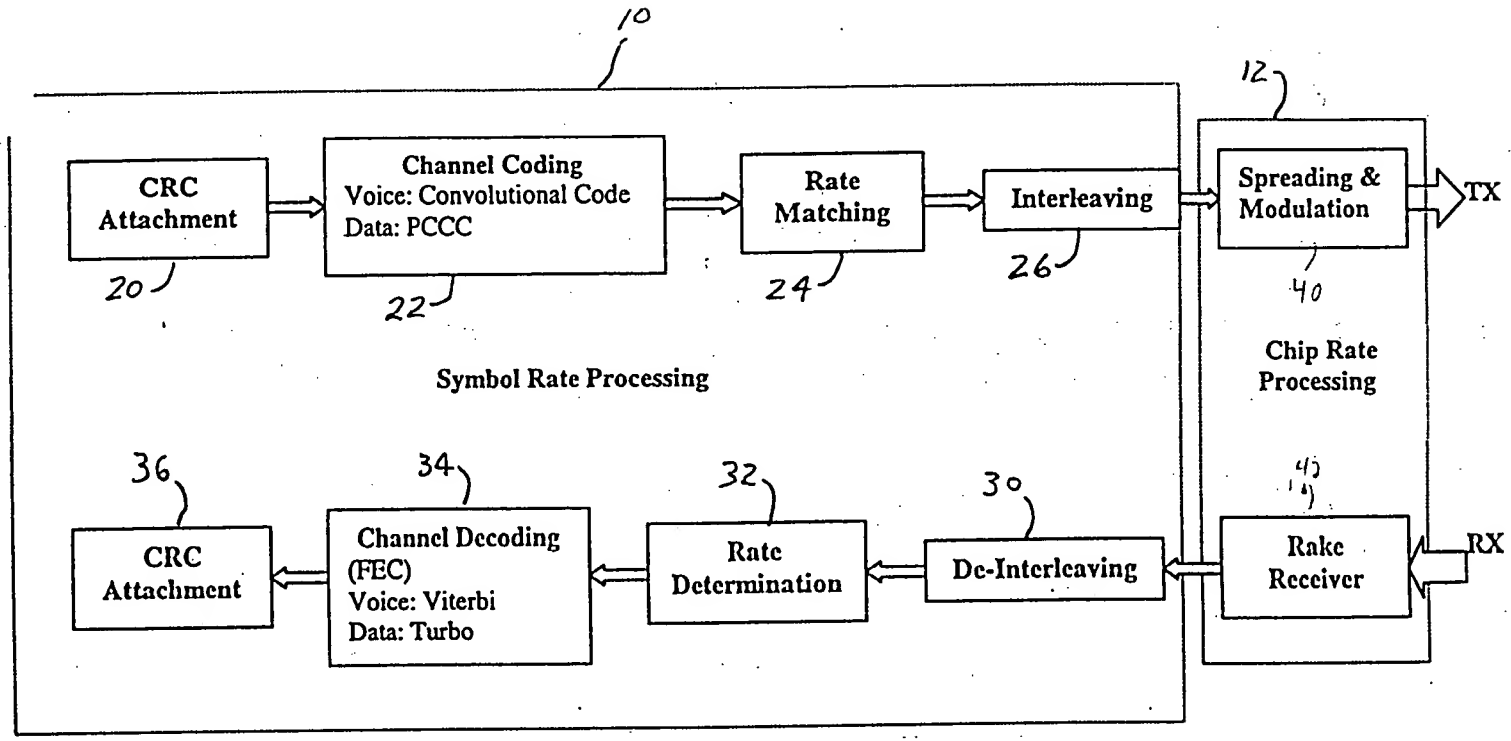
10
12
CRC Attachment
20
Channel Coding
Voice: Convolutional Code
Data: PCCC
22
Rate Matching
24
Interleaving
26
Spreading & Modulation
40
TX
Symbol Rate Processing
Chip Rate Processing
36
CRC Attachment
34
Channel Decoding
(FEC)
Voice: Viterbi
Data: Turbo
32
Rate Determination
30
De-Interleaving
42
Rake Receiver
RX

FIG. 1

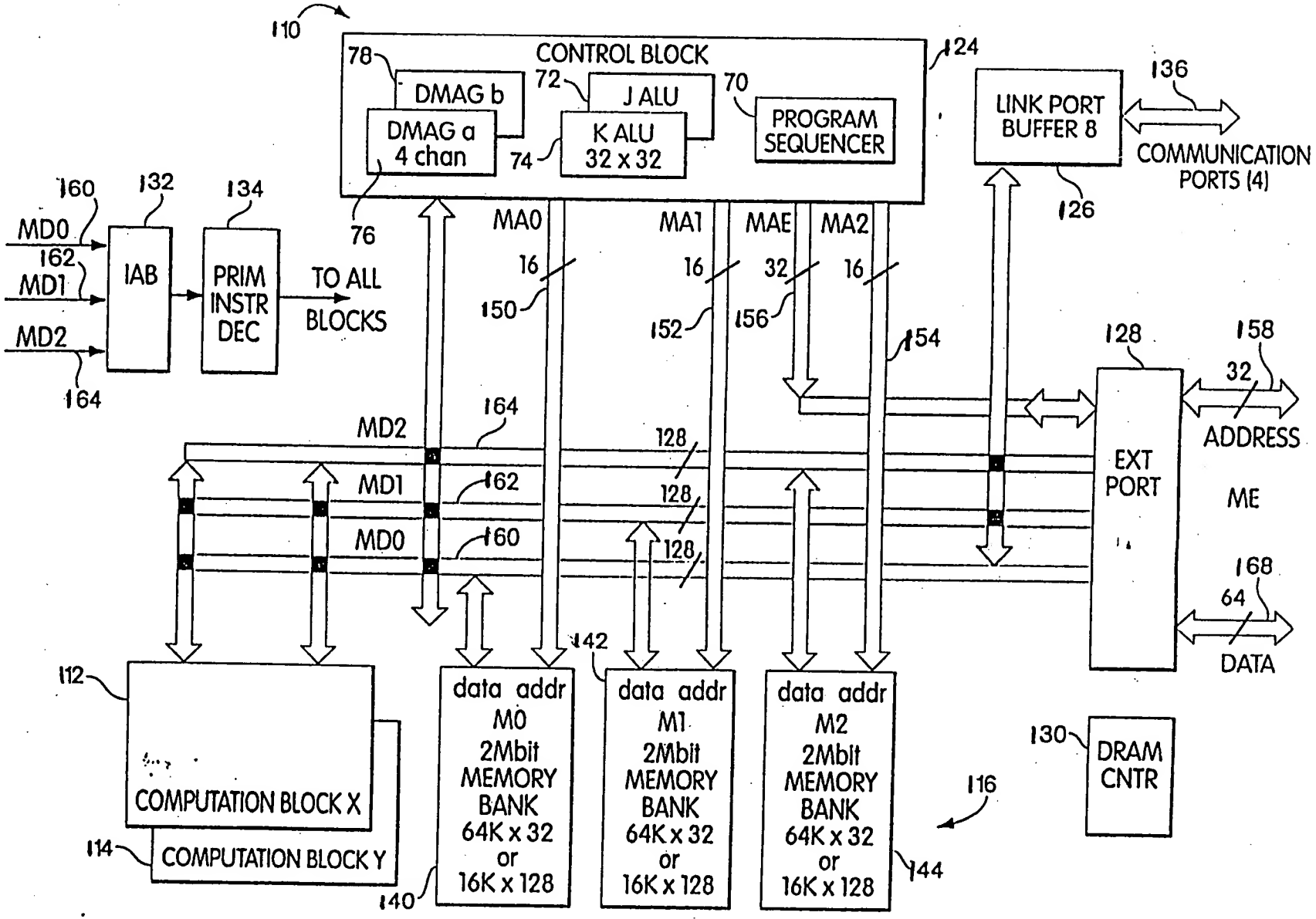
110
CONTROL BLOCK
78
DMAG b
DMAG a
4 chan
72
J ALU
74
K ALU
32 x 32
70
PROGRAM
SEQUENCER
124
LINK PORT
BUFFER 8
136
COMMUNICATION
PORTS (4)
126
160
MD0
162
MD1
MD2
164
132
IAB
134
PRIM
INSTR
DEC
TO ALL
BLOCKS
76
MA0
MA1
MAE
MA2
16
16
32
16
150
152
156
154
128
158
32
ADDRESS
ME
EXT
PORT
MD2
164
MD1
162
MD0
160
128
128
128
168
64
DATA
112
COMPUTATION BLOCK X
114
COMPUTATION BLOCK Y
140
data addr
M0
2Mbit
MEMORY
BANK
64K x 32
or
16K x 128
142
data addr
M1
2Mbit
MEMORY
BANK
64K x 32
or
16K x 128
data addr
M2
2Mbit
MEMORY
BANK
64K x 32
or
16K x 128
144
116
130
DRAM
CNTR

FIG. 2

TO9080 6885260

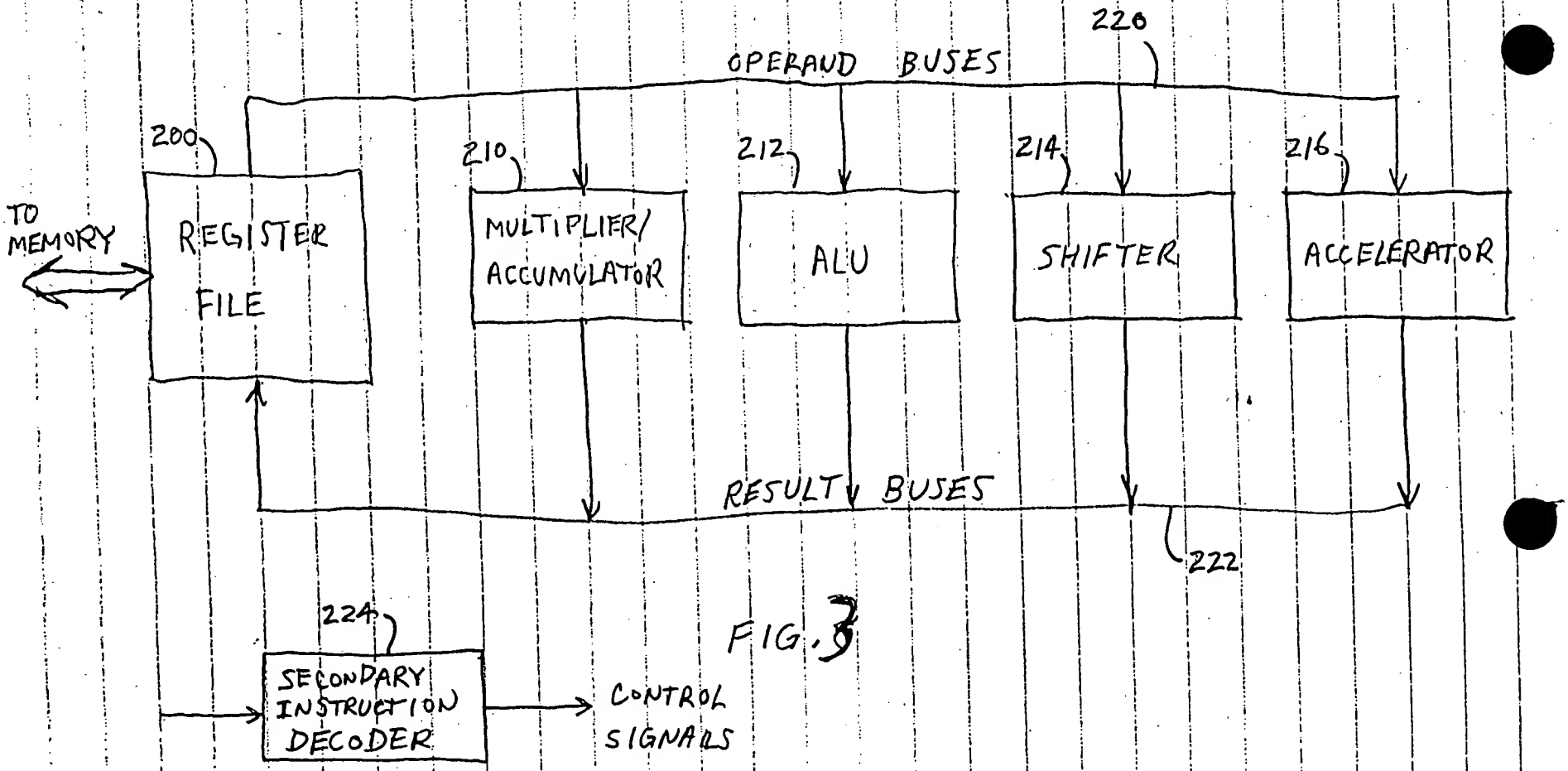

FIG. 3

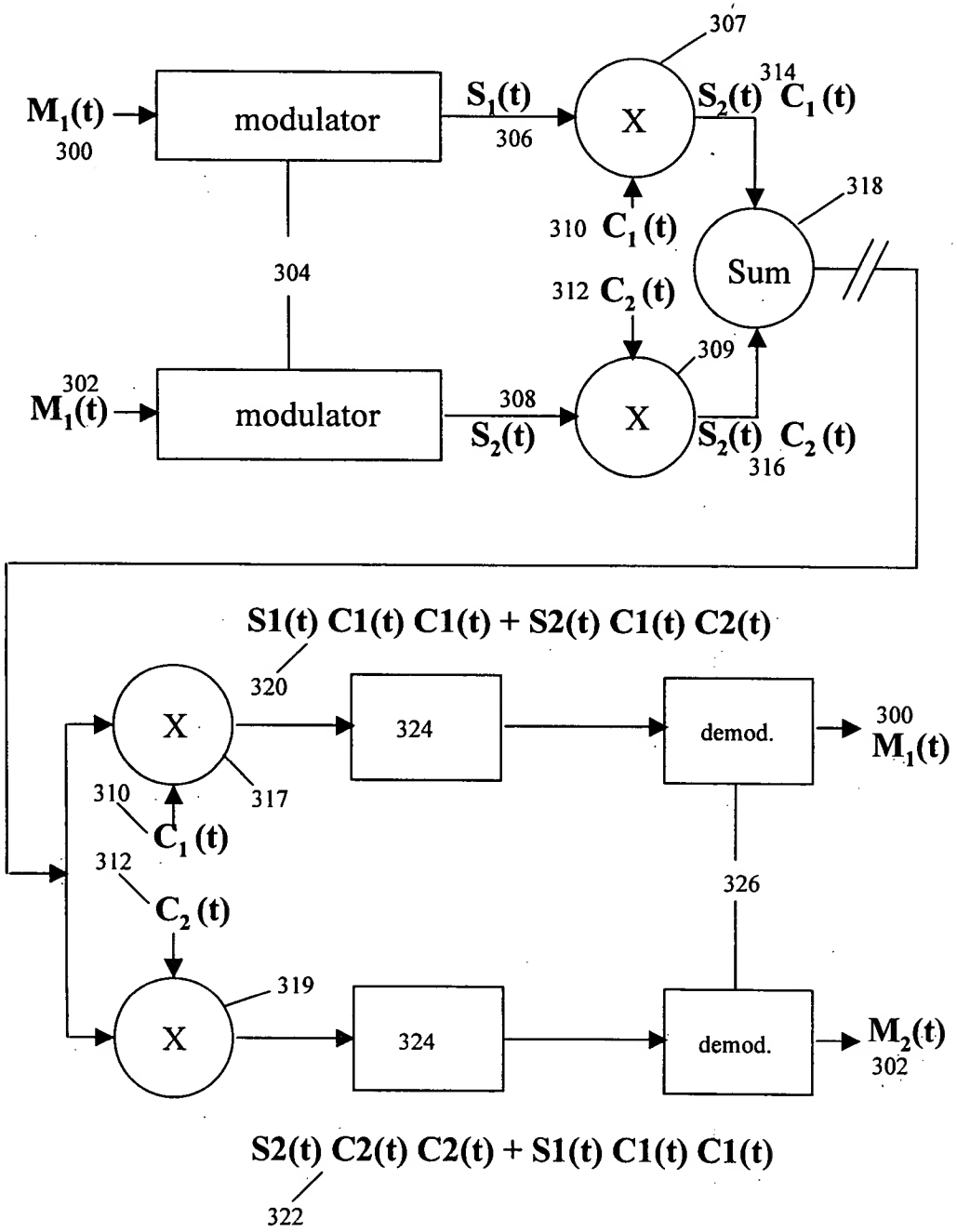
307
314
$M_1(t)$
300
modulator
$S_1(t)$
306
X
$S_2(t)$ $C_1(t)$
318
310 $C_1(t)$
304
312 $C_2(t)$
Sum
309
302
$M_1(t)$
modulator
308
$S_2(t)$
X
$S_2(t)$ $C_2(t)$
316
S1(t) C1(t) C1(t) + S2(t) C1(t) C2(t)
320
X
324
demod.
300
$M_1(t)$
310
317
$C_1(t)$
312
$C_2(t)$
326
319
X
324
demod.
$M_2(t)$
302
S2(t) C2(t) C2(t) + S1(t) C1(t) C1(t)
322

FIG. 4

T09080 68852660

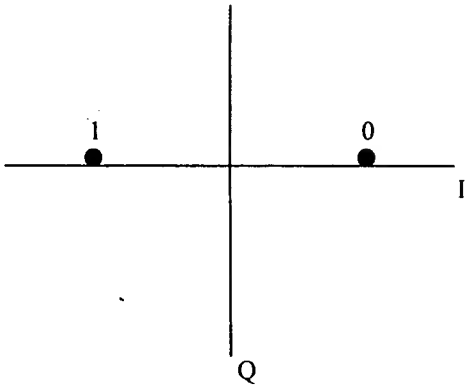

FIG. 5

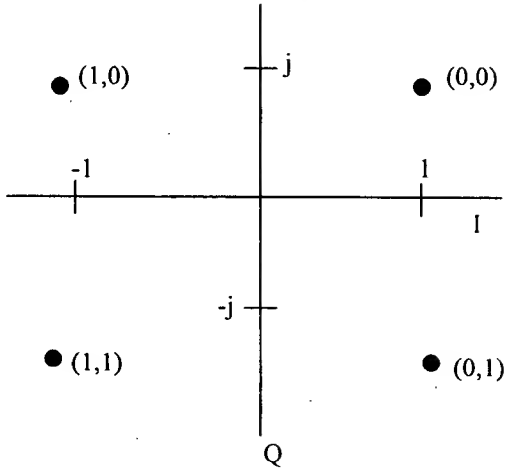

FIG. 6

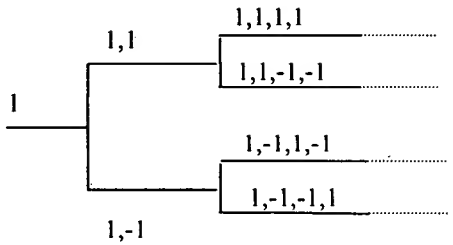

FIG. 7

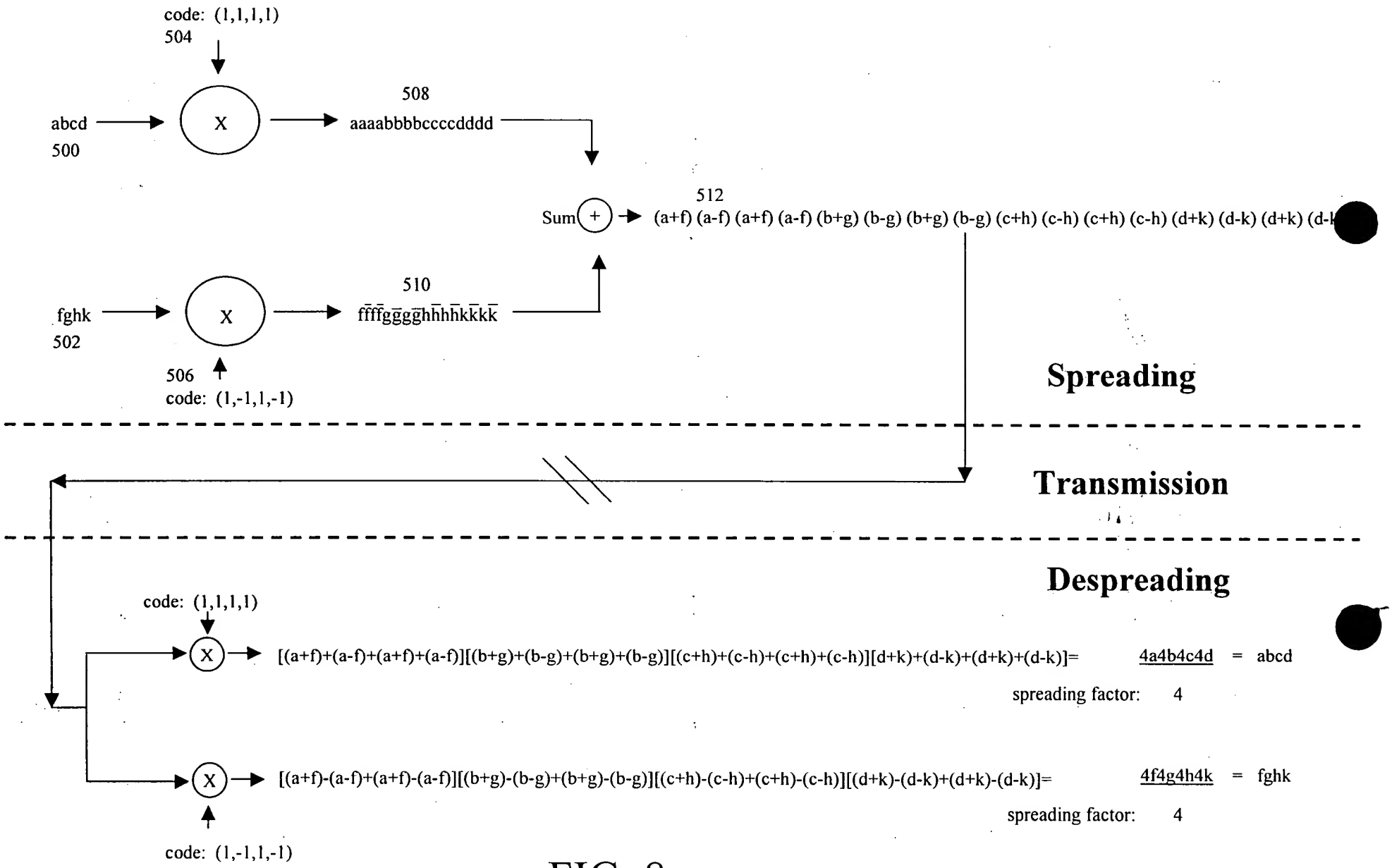
code: (1,1,1,1)
504
abcd
500
X
508
aaaabbbbccccdddd
Sum
+
512
(a+f) (a-f) (a+f) (a-f) (b+g) (b-g) (b+g) (b-g) (c+h) (c-h) (c+h) (c-h) (d+k) (d-k) (d+k)
fghk
502
X
510
ffffgggghhhhkkkk
506
code: (1,-1,1,-1)
Spreading
Transmission
Despreading
code: (1,1,1,1)
X
[(a+f)+(a-f)+(a+f)+(a-f)][(b+g)+(b-g)+(b+g)+(b-g)][(c+h)+(c-h)+(c+h)+(c-h)][d+k)+(d-k)+(d+k)+(d-k)]=
4a4b4c4d
= abcd
spreading factor: 4
X
[(a+f)-(a-f)+(a+f)-(a-f)][(b+g)-(b-g)+(b+g)-(b-g)][(c+h)-(c-h)+(c+h)-(c-h)][(d+k)-(d-k)+(d+k)-(d-k)]=
4f4g4h4k
= fghk
spreading factor: 4
code: (1,-1,1,-1)

FIG. 8

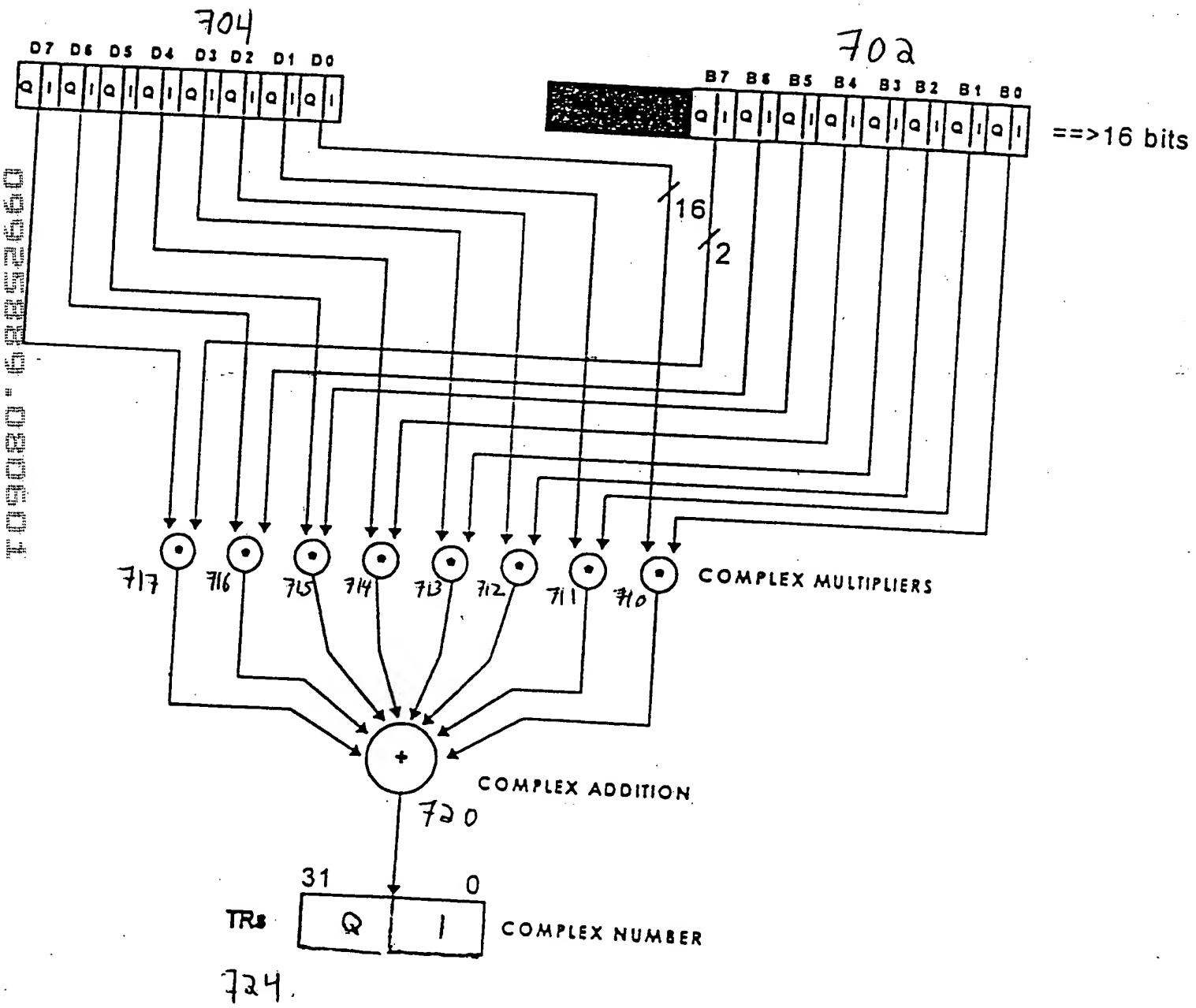
704
D7 D6 D5 D4 D3 D2 D1 D0
702
B7 B6 B5 B4 B3 B2 B1 B0
==>16 bits
16
2
717 716 715 714 713 712 711 710
COMPLEX MULTIPLIERS
+
COMPLEX ADDITION
720
31
0
TRs
Q
I
COMPLEX NUMBER
724

FIG. 9

09525886.080501

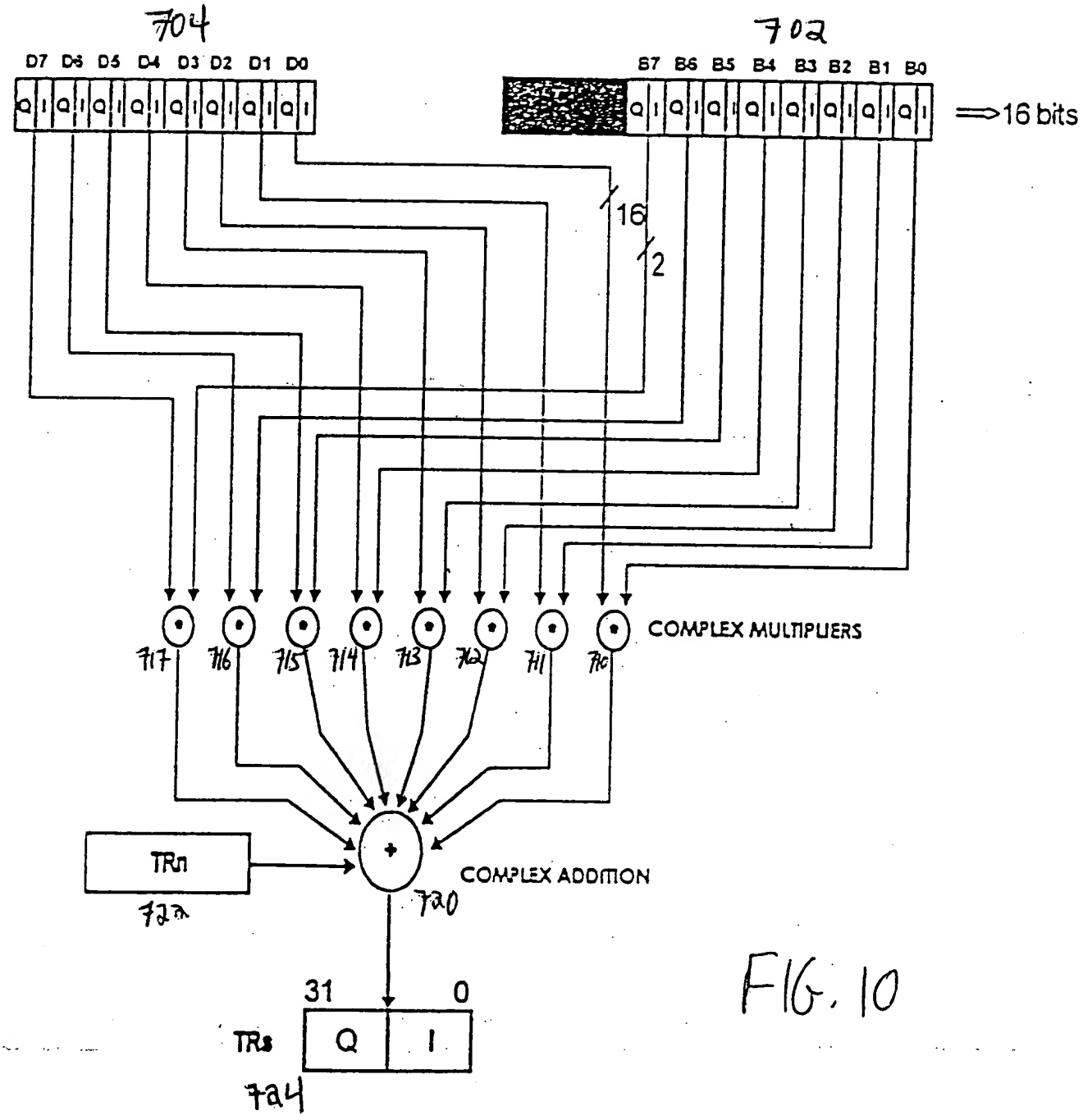

FIG. 10

Wolf Greenfield
SPECIALISTS IN INTELLECTUAL PROPERTY LAW

```
602 TR0 = DESPREAD (R3:0, THR1:0)          ; xR3:0 = SDAB Q[J0+=8];;
604 xTR0 = DESPREAD (R7:4, THR1:0) + TR0; xR7:4 = SDAB Q[J0+=8];;
606 xTR0 = DESPREAD (R3:0, THR1:0) + TR0; xR3:0 = SDAB Q[J0+=8];;
608 xTR0 = DESPREAD (R7:4, THR1:0) + TR0; xR7:4 = SDAB Q[J0+=8];
610 xTHR1:0 = R19:18 (I);;
```

FIG. 11

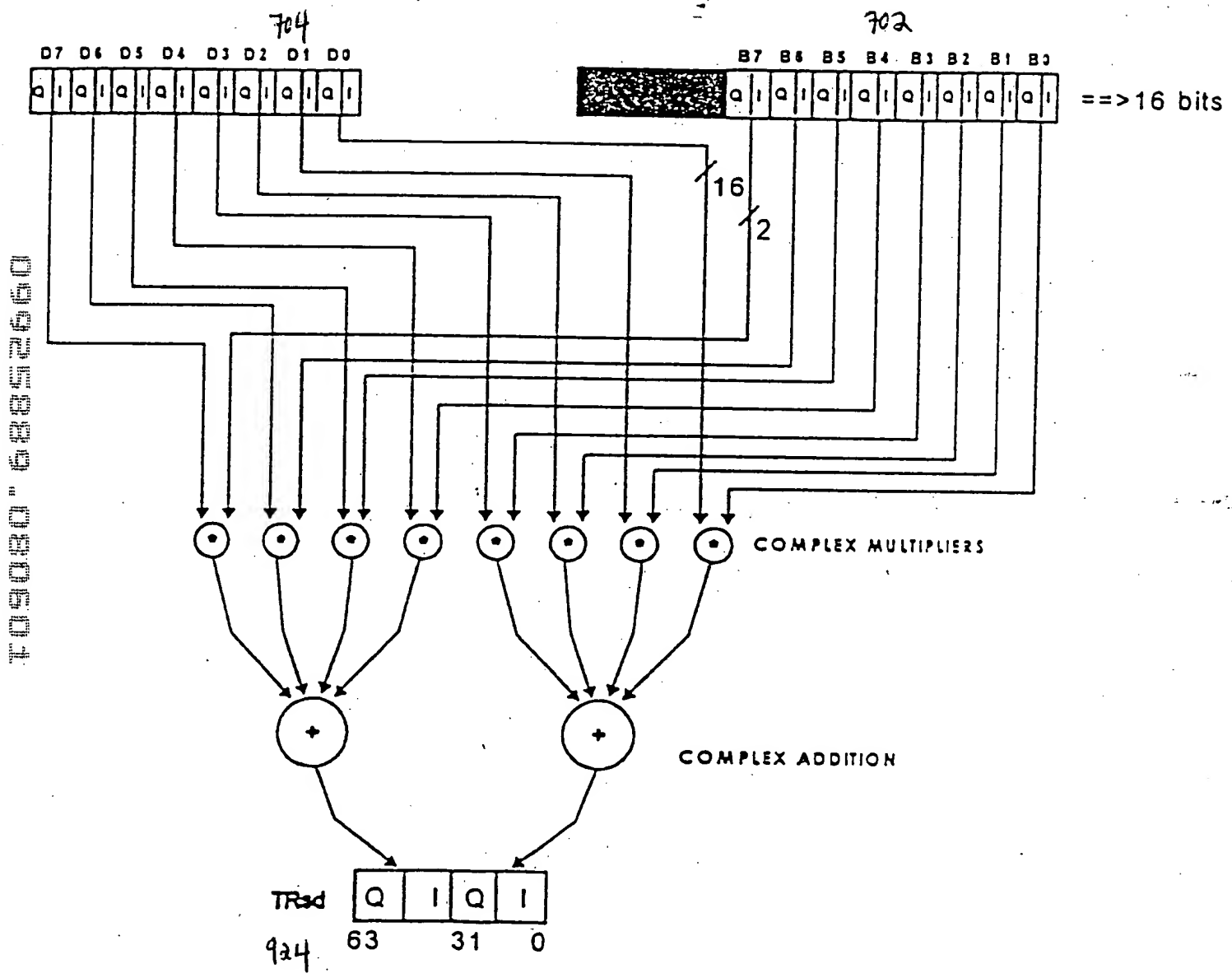
704
D7 D6 D5 D4 D3 D2 D1 D0
Q I Q I Q I Q I Q I Q I Q I Q I
702
B7 B6 B5 B4 B3 B2 B1 B0
Q I Q I Q I Q I Q I Q I Q I Q I
==>16 bits
16
2
COMPLEX MULTIPLIERS
COMPLEX ADDITION
TRsd
Q I Q I
924
63 31 0

FIG. 12